

The Quality of Open Online Education and Learning: A Quality Reference Framework for MOOCs

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Smart Universities Education's Digital Future



λογος

**Christian M. Stracke
Michael Shanks
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Smart Universities: Education's Digital Future



**Official Proceedings of the International
WLS and LINQ Conference 2017**



**World Learning
Summit 2017**



Organized by the University of Agder, the Open University of the Netherlands,
the University of Stanford and by the International Community for Open
Research and Open Education (ICORE)
and supported by:



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The Quality of Open Online Education and Learning: A Quality Reference Framework for MOOCs

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Abstract: Societal, educational and personal changes are shaking economies, working and living conditions as well as the whole world. The raise of the world-wide internet and social media including online communities is affecting societies and people's lives as well as personal learning. Open (Online) Education has experienced a major development raising awareness amongst all actors including global grass-root movements, events, communities and associations as well as international policies and implementations in national and regional educational systems. During the last years Massive Open Online Courses (MOOCs) became very popular: Since the year 2008 with the first MOOC the number of MOOCs is constantly increasing. The year 2012 was considered as the "Year of the MOOCs" leading to a global debate about their quality as an educational tool that is increasing since then. To address the quality issues, MOOQ, the European Alliance for the Quality of MOOCs was initiated. Based on a literature review and analysis of existing quality approaches and indicators for MOOCs, the first Global MOOC Survey was designed and conducted for three target groups (MOOC learners, designers and facilitators) with the support by the leading international associations and institutions. Afterwards the results from the survey were complemented by qualitative and semi-structured interviews with MOOC designers, facilitators and providers to gain more in-depth details and insights. The final objective is the development of the Quality Reference Framework (QRF) with quality indicators and tools in close collaboration with all interested stakeholders worldwide. This paper presents the first QRF draft for further discussion.

Key words: Open Education, Online Learning, MOOCs, Quality Reference Framework, MOOQ

1 Introduction

The societies and their economies, working and living conditions are facing global challenges and changes. They are affecting all parts of our lives including the ways how we learn and educate. Even though that the individual process of learning is not changing completely, the circumstances and modes of learning and education are becoming more diverse (Stracke, 2018). In particular the educational systems are challenged by moving objectives and development targets (Nyberg, 1975, Stracke, 2018). Citizens have to acquire and develop much different skills and competences due to competing businesses and interests at national, regional and international scales are demanding for new work forces. That requires a shift towards core horizontal competences including new kinds of literacy and many public authorities in education are accepting and following this request (OECD, 2016). It is claimed that new economies and jobs are emerging that are not yet existing or fully developed and public education should prepare for it by personality and competence building.

On the other hand there are also considerable changes of the individual lives and conditions, not only related to labour market opportunities and increasing workload pressure but also regarding individual communication, collaboration and learning. Internet and social media were appearing like a star introducing online communities and service that are affecting people's lives as well as personal learning. Even though the limitations of technology and Internet access are still avoiding balanced and equal situations mainly in Southern countries, online learning and collaboration have been established and many new opportunities for online education and learning were developed and are available for many interested people all over the world (Stracke, 2017a & 2018). Therefore it can be called a global movement given the continuous deployment of technology and Internet access and use worldwide (World Bank, 2016).

All these societal, educational and personal changes have led to the growth of Open (Online) Education that has experienced a major increase of raising awareness amongst all levels and stakeholders (European Commission, 2011, Stracke, 2015). Global grass-root movements, events, communities and associations and international policies and implementations in national and regional educational systems were successfully created and sustained. Major milestones were the UNESCO declarations on Open Education and in particular the policy on Open Educational Resources (OER) (UNESCO, 2012). In Europe, the European Commission is strongly supporting it by the communication on "Opening Up Education" (European Commission, 2013) demanding a change and improvement in European education and society.

Within Open Online Education the phenomenon MOOC (short for: Massive Open Online Courses) became very popular: The first MOOC was provided in the year 2008 and since then, the number of MOOCs is constantly growing (Gaskell & Mills, 2014, Stracke, 2017a). A first peak could be discovered in the year 2012 that was labelled as the "Year of the MOOCs": It introduced a debate that is questioning the quality of MOOCs and their value as learning experience and educational tool (Daniel, 2012). The drop-out rates as the typical measure in traditional distance education courses and in all formal education settings are discussed in MOOCs as they are very low and often below 10 %: Therefore first demands for re-booting the design of MOOCs and their research and quality are formulated (Margaryan, Bianco & Littlejohn, 2015, Onah, Sinclair & Boyatt, 2014, Reich, 2015). But this discussion results is mainly based on an improper use of drop-out rates as a formal evaluation concept of face-to-face education for MOOCs that allow mostly non-formal learning experiences (Onah, Sinclair & Boyatt, 2014). Thus, alternative evaluation measures have been proposed for MOOCs and are discussed to address better the learners and their personal intentions and goals (Stracke, 2017a, Teixeira & Mota, 2014).

To directly focus these quality issues, MOOQ, the European Alliance for the Quality of MOOCs was initiated and is taking up several key aspects of the 2011 EU Modernization Agenda such as digital skills and competences orientation (European Commission, 2011). The founding partners of MOOQ are: The Open University of the Netherlands (OUNL, NL) as the MOOQ coordinator, Hellenic Open University (HOU, GR), National Quality Infrastructure System (NQIS, GR), Universidade Aberta (UAb, PT) and Ecole Normale Supérieure (ENS, FR). In close collaboration with leading European and international associations and institutions (including: UNESCO IITE, ITCILO, FAO, UNITAR, ICDE, CoL, ICORE, EADTU, EDEN, EATEL, OEC, Contact North, EAPRIL) the MOOQ alliance aims to improve the adaptation and quality of future Open Education and MOOCs (Stracke, 2017b).

2 How to improve Open Online Learning and MOOCs?

The vision of MOOQ is to improve and to foster the quality in Open Online Education and Learning and in particular in MOOCs that it will lead us to a new era of learning experiences. MOOQ's mission is to develop a Quality Reference Framework (QRF) for the adoption, the design, the delivery and the evaluation of MOOCs in order to empower MOOC designers and MOOC providers for the benefit of MOOC learners. The main goal of MOOQ is therefore the development

and the integration of quality approaches, new pedagogies and organisational mechanisms into MOOCs with a strong focus on the learning processes, methodologies and assessments.

To enhance the unique digital market in Europe, MOOQ will introduce a new "Q-generation of MOOCs" that will be designed, organized and tested as "qMOOCs". This is done in close collaboration with all interested partners and stakeholders in Europe and beyond. Therefore MOOQ commits to help providers to design and deliver better MOOCs in close collaboration with all interested stakeholders worldwide. The particular needs addressed by MOOQ are:

- Massive offerings of MOOCs, stimulated by unprecedented publicity, will soon lead to ranking of courses and Universities offering the courses: Ranking will rely on the increased quality of offerings as perceived by both learners and educational professionals. Thus, there is a need for a QRF for MOOCs with a focus on sustainability by way continuous improvement.
- Learning effectiveness will be the ultimate test for the MOOC education model as it was for the classic distance learning approach. Alignment of learning objectives, measurement and assessment, educational materials, interaction and engagement of learners, and course technology to ensure achievement of desired learning outcomes is essential. Hence there is the need for the development, application and testing of criteria, indicators, methods and tools for measuring achievement in MOOC learning.
- The MOOC educational model is being shaped as courses are offered, and so far, most initiatives still use traditional pedagogical techniques, although emerging pedagogic models in Europe bear much promise. There is a lack of really innovative practices particularly in crowd learning, personalization equity and inclusion in a massive context. Hence, the need for creative use of the new learning tools for flexible and responsive education and application of the principles, criteria and standards of quality.
- Educational professionals and HE institutions are lacking support for designing, deploying, managing and assessing high quality MOOCs. Dissemination of techniques on the appropriate use of learning outcomes when describing and defining qualifications, parts of qualifications and curricula in massive learning is vital. Consequently MOOQ addresses the need for tools and courses on MOOC learning

scenarios, content design, quality assessment and organizational development.

Next to design patterns and best practices of MOOCs, two multilingual MOOC pilots and a pre-standard for a European MOOC Quality Framework, the main result of MOOQ is a Quality Reference Framework (QRF) for the design, comparison, evaluation and improvement of MOOCs (Stracke et al., 2017).

The QRF will provide an organisation-wide system to help Higher Education Institutions and external stakeholders to design, develop, monitor, evaluate and improve the effectiveness of MOOCs along with the quality management practices. The QRF will define the requirements for the formation and enactment of internal and external evaluation mechanisms of processes and content. Based on flexible, configurable quality criteria and indicative descriptors, monitoring and reporting is adapted to organisational needs.

The QRF will be practical to encompass a wide range of approaches to quality assurance emphasizing that it is the quality of the outcomes (in terms of internal and external stakeholder satisfaction) that matters most in the design of MOOCs. Therefore, it will use a multi-facet approach with quality indicators and tools for the design of future MOOCs to achieve fitness of purpose and improve them for better learning experiences by MOOC learners. To this end, MOOQ will use and apply the first international ISO quality standard for e-Learning ISO/IEC 40180, the revision of ISO/IEC 19796-1 approved and published in the year 2005. The QRF will cover the five phases adapted from the quality standard: analysis, design, implementation, learning process plus evaluation that embraces all other four phases for their continuous improvement.

3 Quality Reference Framework for MOOCs - A first draft

The Quality Reference Framework for MOOCs is the main objective and result expected and planned by MOOQ, the European Alliance for the Quality of MOOCs as mentioned above. First, an in-depth literature review and analysis of existing quality approaches, evaluation instruments and quality indicators for MOOCs were conducted and their findings are currently under publication. Based on them, the first Global MOOC Survey was designed in two steps: First, a small pre-survey with set of potential questions was realized for a short period of time (n=45) revealing that many MOOC learners do not share the intentions of the MOOC designer and have got their own goals (Stracke, 2017a). Afterwards the big international survey (www.survey.MOOC-quality.eu) was conducted for three

target groups (MOOC learners, designers and facilitators) with the support by the leading international associations and institutions and over a period of three months. More than 500 participants shared their experiences and expertise (n=584) and most of them reported positive experiences with MOOCs.

Afterwards the results from the survey were enriched by complementary qualitative and semi-structured interviews with MOOC designers, facilitators and providers to gain more in-depth details and insights. In parallel several interactive workshops for feedback and discussions were and will be organized at European and international conferences (such as OE Global 2016 and 2017, EC-TEL 2016, DRDC 2016, IEEE EDUCON 2017, LINQ and WLS 2017) to facilitate the close collaboration with all interested stakeholders worldwide for the development of the Quality Reference Framework with its quality indicators and tools.

The first draft of the Quality Reference Framework is outlined in the following for further discussions that was developed by MOOQ and updated after the interactive workshops at European and international conferences. Currently the QRF consists of five phases (Analysis, Design, Implementation, Learning Process and Evaluation) as illustrated in the figure below:

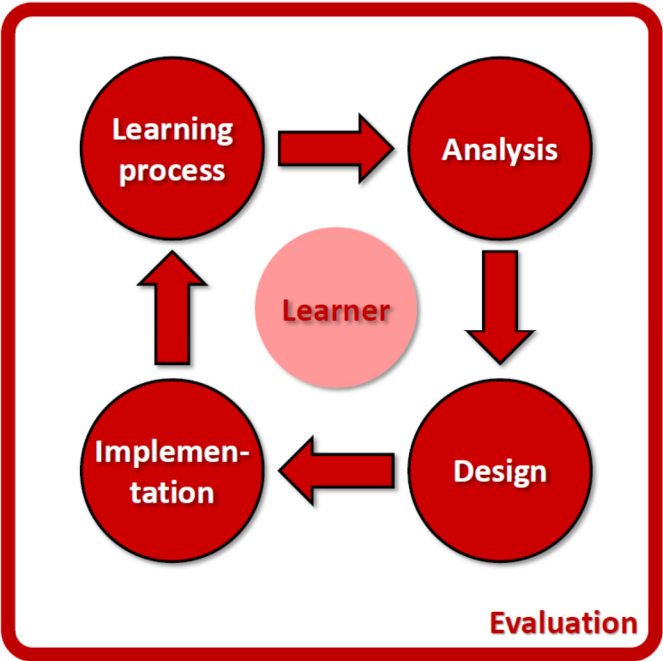


Figure 1: The phases of the Quality Reference Framework for MOOCs

The five phases will cover and be applied on all three levels (micro, meso and macro) of education and will address the relevant target groups as shown in the following figure:

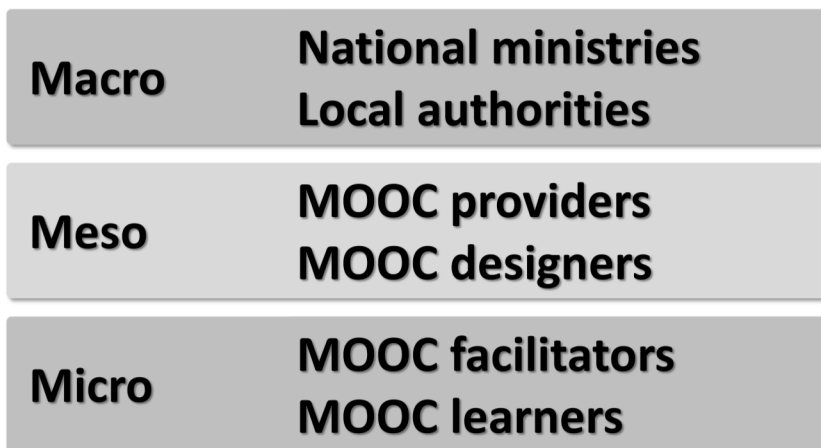


Figure 2: The target groups of the Quality Reference Framework for MOOCs

Next step towards the Quality Reference Framework will be the identification of the tools and instruments valuable and relevant for these different target groups.

4 Future work and outlook

MOOQ will intensify the efforts to develop the Quality Reference Framework and related tools and instruments and to involve all interested organizations and people: Next to the two planned MOOCs, the MOOQ alliance is developing a MOOC on the quality of Open Education in close cooperation with many stakeholders worldwide to join forces for facilitating and increasing high quality Open Education. In addition a renewed version of the first Global Survey on the Quality of MOOCs is planned for the year 2018 to allow comparison of the results and analysis of potential progress. And also the MOOC on the Quality of Open Education will be updated and repeated in the year 2018.

Finally new drafts and versions of the Quality Reference Framework will be published for online discussion at the MOOQ website (www.MOOC-quality.eu) next to the other results from the surveys, interviews and interactive workshops. All these publications will be published online under an open and free license of course.

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Institutions of learning at all levels are challenged by a fast and accelerating pace of change in the development of communications technology. Conferences around the world address the issue. Research journals in a wide range of scholarly fields are placing the challenge of understanding „Education’s Digital Future“ on their agenda. The World Learning Summit and LINQ Conference 2017 proceedings take this as a point of origin. Noting how the future also has a past: Emergent uses of communications technologies in learning are of course neither new nor unfamiliar. What may be less familiar is the notion of „disruption“ , found in many of the conferences and journal entries currently.

Is the disruption of education and learning as transformative as in the case of the film industry, the music industry, journalism, and health? If so, clearly the challenge of understanding future learning and education goes to the core of institutions and organizations as much as pedagogy and practice in the classroom.

One approach to the pursuit of a critical debate is the concept of Smart Universities educational institutions that adopt to the realities of digital online media in an encompassing manner: How can we as smarter universities and societies build sustainable learning eco systems for coming generations, where technologies serve learning and not the other way around? Perhaps that is the key question of our time, reflecting concerns and challenges in a variety of scholarly fields and disciplines? These proceedings present the results from an engaging event that took place from 7th to 9th of June 2017 in Kristiansand, Norway.